BEFORE THE
SURFACE TRANSPORTATION BOARD

DOCKET NO. FD 35506

231559

WESTERN COAL TRAFFIC LEAGUE –
PETITION FOR A DECLARATORY ORDER

ARKANSAS ELECTRIC COOPERATIVE CORPORATION'S MOTION FOR LEAVE TO FILE REBUTTAL EVIDENCE AND ARGUMENT

Arkansas Electric Cooperative Corporation (AECC) moves for leave to submit the attached Rebuttal Evidence and Argument to respond to certain evidence and argument submitted by BNSF Railway Company (BNSF) in its Reply. As grounds for this Motion, AECC states as follows.

AECC has significant interest in the subject matter of this proceeding, but initially did not anticipate that its active participation would contribute materially to the record before the Board. However, after reviewing the Reply Evidence and Argument submitted by BNSF, AECC believes that the attached Rebuttal Evidence and Argument would be useful to the Board in addressing important issues raised in this docket. This rebuttal builds on analyses that AECC has previously submitted to the Board in a number of other dockets. 1/

1/ E.g., Competition In The Railroad Industry, Ex Parte No. 705; Study Of Competition In The Freight Rail Industry, Ex Parte No. 680; Use Of A Multi-Stage Discounted Cash Flow Model In Determining The Railroad Industry's Cost Of Capital, Ex Parte No. 664 (Sub-No. 1); Methodology To Be Employed In Determining The Railroad Industry's Cost Of Capital, Ex Parte No. 664; Rail Capacity And Infrastructure Requirements, Ex Parte No. 671.

AECC does not believe that the material it seeks to submit will duplicate the filing of any other party. No party would be prejudiced by allowing AECC to submit this rebuttal.

Respectfully submitted,

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Counsel for Arkansas Electric Cooperative Corporation

Dated: December 20, 2011

CERTIFICATE OF SERVICE

I hereby certify that on the 20th day of December, 2011, I caused the foregoing Motion and attachments to be served electronically or by first class mail on all parties of record on the official service list for this Docket.

Eric Von Salzen

BEFORE THE
SURFACE TRANSPORTATION BOARD

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REBUTTAL EVIDENCE AND ARGUMENT OF
ARKANSAS ELECTRIC COOPERATIVE CORPORATION

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REBUTTAL EVIDENCE AND ARGUMENT OF
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Arkansas Electric Cooperative Corporation (AECC) submits this evidence and argument to rebut certain evidence and argument submitted by BNSF Railway Company (BNSF) in its Reply.

DISCUSSION

AECC's Rebuttal addresses the following issues.

1. The Appropriateness Of Using The $8.1 Billion Write-up For Regulatory Purposes. The parties are in agreement that the analyses performed by BNSF's accountants indicate that the portion of the "acquisition premium" over book value paid by Berkshire Hathaway to purchase BNSF that is associated with the write-up of BNSF's tangible assets amounts to $8.1 billion. 1/ However, agreement on this figure does not establish that it is appropriate for the Board to use in carrying out its vitally-important functions in regulating the freight rail industry.

1/ WCTL witnesses Crowley/Fapp and BNSF witnesses Baranowski/Fisher have reached a collegial agreement on the amount of the "acquisition premium".

The premium was calculated for BNSF by accountants (none of whom has testified in this proceeding) based on a hypothetical, "optimized" BNSF network of only 6,600 route miles of track (compared to the 32,000 route miles BNSF actually operates). BNSF has not justified the use of such a hypothetical rail network for the Board's regulatory purposes. BNSF relies on the Congressional direction in 49 USC 11161 that the Board shall "conform such [accounting] rules to generally accepted accounting principles" "to the maximum extent possible", but fails to heed the Congressional requirement that the Board "insure that [its accounting] rules" serve the statute's "regulatory purposes", and that the rules be reviewed and changed periodically to "achieve the regulatory purposes" of the statute. As discussed in greater detail in the accompanying Rebuttal Verified Statement Of Michael A. Nelson (Nelson RVS), inclusion of the $8.1 billion write-up in the valuation of BNSF's assets would not serve the regulatory purposes of the statute, and indeed would undermine those purposes.

2. <u>BNSF Has Ignored The Dramatic Changes In The Railroad Industry Since The Railroad Accounting Principles Board Endorsed GAAP Acquisition Accounting In 1987</u>. As discussed in Nelson RVS, the RAPB recommendation that GAAP accounting be used for rail regulatory purposes was based on circumstances that no longer exist.

3. <u>BNSF's Reliance On The Joint Verified Statement Of A. Lawrence Kolbe And Kevin Neels Is Misplaced</u>. Although these witnesses have recognized expertise as economists, they appear to lack substantial experience in rail regulation. As a result, they have based their analyses on assumptions about the industry that are simply incorrect. As discussed in Nelson RVS, these faulty assumptions make their conclusions invalid.

<u>Conclusion</u>

One of the objectives of federal rail regulatory policy is to make it possible for railroads to achieve "adequate" revenues. 49 USC 10704 (a) (2). The touchstone measure of "adequate" revenues is the railroad's ability to "attract and retain capital". Id, 10704 (a) (2) (B). The $8.1 billion write-up resulted because one of the savviest investors in the world was willing to invest a large amount over and above not only the current book value of all of BNSF's assets, but also the current market value of BNSF's tangible assets, to purchase the railroad. Common sense would lead to the conclusion that BNSF has demonstrated the ability to attract capital and is revenue adequate.

Yet including the $8.1 billion write-up in the value of BNSF's tangible assets for rail regulatory purposes would cause BNSF to appear not to be "revenue adequate", and would loosen regulatory constraints on the rates that BNSF can charge its customers. This result simply makes no sense and would be contrary to the regulatory purposes that are supported by the Board's accounting rules.

Respectfully submitted,

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Transportation Consultant

Dated: December 20, 2011

CERTIFICATE OF SERVICE

I hereby certify that on the 20th day of December, 2011, I caused the foregoing Motion and attachments to be served electronically or by first class mail on all parties of record on the official service list for this Docket.

Eric Von Salzen

REBUTTAL VERIFIED STATEMENT
OF
MICHAEL A. NELSON

QUALIFICATIONS

My name is Michael A. Nelson. I am an independent transportation systems analyst with over 31 years of experience in railroad competition and coal transportation. My office is in Dalton, Massachusetts.

I have directed or participated in numerous consulting assignments and research projects in the general field of transportation. My work typically involves developing and applying methodologies based on operations research, microeconomics, statistics, and/or econometrics to solve specialized analytical problems.

Of particular relevance to this testimony, I have extensive experience related to many specific issues that have arisen in this proceeding, including the evolution of the railroad industry under the Staggers Act, competitive factors and the formation of rates for regulated and unregulated movements, the Board's cost of capital methodology, rail investments, and others. I have submitted verified statements and/or assisted in the preparation of comments in numerous proceedings before the Board, including Competition In The Railroad Industry, Ex Parte No. 705; Study Of Competition In The Freight Rail Industry, Ex Parte No. 680; Use Of A Multi-Stage Discounted Cash Flow Model In Determining The Railroad Industry's Cost Of Capital, Ex Parte No. 664 (Sub-No. 1); Methodology To Be Employed In Determining The Railroad Industry's Cost Of Capital, Ex Parte No. 664; Rail Capacity And Infrastructure Requirements, Ex Parte No. 671; and, The 25th Anniversary Of The Staggers Rail Act Of 1980: A Review And Look Ahead, Ex Parte No. 658.

I received my bachelor's degree from the Massachusetts Institute of Technology in 1977. In 1978, I received two master's degrees from MIT, one in Civil Engineering (Transportation Systems) and one from the Alfred P. Sloan School of Management, with concentrations in economics, operations research, transportation systems analysis and public sector management. Prior to February 1984, I was a Senior Research Associate at Charles River Associates, an economic consulting firm in Boston, Massachusetts. My qualifications and experience are described further in Exhibit A.

INTRODUCTION AND SUMMARY

This statement addresses and attempts to reconcile the unusual situation that has developed in this proceeding in which the parties have agreed fully on the numbers, but seemingly can find no common ground regarding their significance or implications. In their respective reply statements, WCTL witnesses Crowley/Fapp and BNSF witnesses Baranowski/Fisher have reached a collegial agreement on the $8.1 billion asset write-up figure without any shots being fired. From that point of agreement, however, the shipper and railroad parties begin speaking in entirely different languages, largely reflecting their private interests. Shippers understandably focus largely on the effects of the $8.1 billion on URCS costs, and the way inclusion of that premium may cause some captive shippers to experience diminished regulatory protections and higher rates. The railroad parties, on the other hand, claim that they're simply following settled precedent, and that to apply the shippers' proposed change to a railroad would, in the words of BNSF witnesses Kolbe/Neels, "…guarantee the company would fail to earn the cost of capital over the lives of its assets."

This proceeding brings before the Board fundamental issues related to differential pricing and revenue adequacy. However, with the parties talking past each other based on their private interests, the Board may feel that it could use further input regarding the core public interest responsibilities it holds. Having been told by its own experts, Christensen Associates, that the rail industry has been able to access efficient quantities of capital since at least 1995, that it achieved revenue sufficiency in approximately 2006, and that in the presence of growing volumes revenue sufficiency can be maintained with diminished levels of differential pricing,[1] the Board nevertheless is being told by the railroads that it must loosen the reins on differential pricing still further. For their part, the shipper interests argue that the Board has the authority to alter its precedents, but may not have fully articulated the public interest considerations that would call for such a change.

In this statement, I address relevant public interest considerations raised by the reply filings. I specifically address the following issues:

- the opaque nature of the $8.1 billion estimate and its unsuitability for regulatory purposes;

- the railroads' reliance on the original RAPB findings regarding use of GAAP for asset valuation, the context of those findings, and crucial changes since the time of the RAPB report that now support a change in the precedent for regulatory purposes; and,

- errors embodied in the analysis and conclusions presented in the Kolbe/Neels reply statement, particularly the conclusion that use of original cost accounting for regulated rates guarantees revenue insufficiency. I also address the economic incentives for unsound conduct that would result if the railroads' position on asset valuation were accepted.

My general conclusion is that the public interest considerations arising in this proceeding call for the Board to reject incorporation of the acquisition premium. Contrary to the railroad posture, the issues raised in this proceeding do not support continuation of "business as

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[1] Specific citations and further discussion of these points are contained in STB Ex Parte 705, Competition In The Railroad Industry, "Arkansas Electric Cooperative Corporation's Notice Of Intent To Participate In The Public Hearing" / Oral Argument Exhibit: "Statement Of Arkansas Electric Cooperative Corporation Regarding Competition In The Railroad Industry" (June 10, 2011) at Appendix C, Summary of Evidence on Key Issues – Achievement of Revenue Sufficiency.

usual". Rather, the evidence documents several changes of circumstance that now make it appropriate for the Board to change its past practices regarding asset valuation.

I document at least 4 specific industry changes that have occurred since the Board established its incumbent practices regarding asset valuation, including:

1. Diminished importance of impaired assets;
2. Reliable evidence of supracompetitive returns arising in rate cases and elsewhere;
3. Payment of large premium for goodwill, indicative of full satisfaction of the revenue adequacy standard, at least by BNSF; and,
4. Documentation of an incentive for investors to pay a premium to leverage permissible earnings.

These changes refute the railroads' argument that "nothing has changed", and substantiate the propriety of a new look by the Board at its practices regarding asset valuation.

DISCUSSION

1. <u>Unsuitability for regulatory purposes of the $8.1 billion estimate</u>

Section 10101(13) calls for the Board "... to ensure the availability of accurate cost information in regulatory proceedings...." WCTL and BNSF witnesses agree in their Replies that the analyses performed by BNSF's accountants translate to an $8.1 billion write-up of the value of BNSF's tangible assets. Unfortunately, and notwithstanding the agreement of the parties, the Board cannot ensure the accuracy of this cost information when it flows through to regulatory applications. Indeed, the information BNSF has provided regarding the methodology used to generate this estimate has raised more questions than it has answered.

As described previously by BNSF witness Hund, the $8.1 billion estimate discussed in the replies rests on analyses performed by accountants, none of whom have appeared as a witness in this proceeding. By Mr. Hund's description, the estimate did not entail a straightforward enumeration of BNSF's tangible assets and their values. Rather, the accountants' analysis was based on a hypothetical, "optimized" network the accountants developed in which BNSF only operated 6,600 route miles of track (compared to the much larger network BNSF actually operates)[2]. Notably, this hypothetical network is not represented to be a tool used by BNSF or Berkshire Hathaway for any type of network analysis or other management purpose. To the contrary, witness Hund admitted candidly that BNSF and Berkshire Hathaway management personnel don't even understand the methodology that the accountants used. Under these circumstances, and despite the stated agreement of the reply witnesses regarding calculation of the figure, the Board has been provided with no substantive basis upon which it can ensure the accuracy of the cost numbers that result from incorporation of the $8.1 billion figure, as contemplated in Section 10101(13).

The railroads repeatedly cite the reference to "generally accepted accounting principles" in Section 11161, and argue that the Board must accept and use the accountants' estimate. However, the claim that GAAP ("Generally Accepted Accounting Principles") takes precedence over the Board's regulatory responsibilities is illusory. The purpose of GAAP is to promote uniformity and comprehension by users of financial statements, and not to govern or supersede uses of financial information that are appropriate for regulatory purposes. Asset write-ups may enable users of financial statements to evaluate the subsequent performance of a firm after an acquisition, but they are not intended to address, for example, the return that a railroad

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[2] BNSF witness Hund, at page 5 of his opening verified statement, indicates that the 6,600 route miles represents 30% of the actual network, implying the comparable measure of actual route miles is 22,000 route miles. The BNSF website indicates that BNSF currently operates 32,000 route miles. http://bnsf.com/about-bnsf/pdf/fact_sheet.pdf. For the purposes of this statement, it does not matter what the exact number is, since both figures differ from the 6,600 figure by a wide margin.

would need to achieve to "attract and retain capital in amounts adequate to provide a sound transportation system", as referenced in Section 10704(a)(2)(B).

Section 11161 is comprised of only 3 sentences, the first two of which explicitly affirm in plain language the primacy of regulatory purposes – not conformity with GAAP – in the Board's implementation of cost accounting:

> "The Board shall periodically review its cost accounting rules and shall make such changes in those rules as are required to achieve the regulatory purposes of this part. The Board shall insure that the rules promulgated under this section are the most efficient and least burdensome means by which the required information may be developed for regulatory purposes." (emphasis added)

The fact that the third sentence refers to using generally accepted accounting principles "to the maximum extent practicable" has been taken out of context by the railroads. In context, Congress plainly anticipated that there would be instances where regulatory purposes would not be served by GAAP accounting, and circumscribed the mandate to conform to GAAP to exclude instances where such conformity would be inconsistent with regulatory purposes and thus not "practicable".

Even if it is assumed that accepting at face value numbers generated by third parties using undocumented methods is acceptable for GAAP asset valuation purposes, the Board has both the expertise and the responsibility to consider carefully the reliability of the methodology and its implications for regulatory purposes. For example, to make use of the accountants' estimates, the Board would need to be able to reconcile the wide gap between the 6,600 mile "optimized" network and the much larger actual network operated by BNSF, in the context of the statutory mandate for "honest and efficient management" contained in Section 10101(9), and the "honest, economical, and efficient management" standard articulated in Section 10704(a)(2). With more than 30 years to work with the freedoms to shed unprofitable trackage that were provided in the Staggers Act, it strains credulity that such a large block of noneconomic BNSF trackage remains in service. Moreover, if the Board were to accept the proposition that BNSF hasn't yet abandoned such noneconomic trackage, it unavoidably would suggest the possibility that BNSF over time has managed or staged the timing of abandonments and network rationalization initiatives to avoid attainment of revenue adequacy under the Board's methodology.[3]

These cans of worms eventually may need to be opened, but the Board should not now accept as fact, in supposed obedience to GAAP, the results of an undocumented, untested and contrary-to-fact back room simulation.

2. <u>RAPB and the use of GAAP</u>

The railroads rely on the proposition that RAPB supports the continued reliance on GAAP for asset valuation in mergers and acquisitions. However, they overlook entirely the circumstances prevailing at the time of the RAPB report, the limitations on the applicability of the findings explicitly stated in the report, and the current circumstances that negate the major rationale stated in the report for endorsing GAAP.

The RAPB report was issued in 1987. At that time, the rail industry was in the early stages of the network rationalization driven by the market forces unleashed by the Staggers Act. Class I's still operated many facilities that were "impaired" in the sense that they would not be replaced as built given changes in circumstances that had occurred since their construction. Impaired assets are an important regulatory issue, because they are assets that in an economic sense should not be replaced, and pose the threat that investors in such assets won't get their money back. (Of course, no amount of rent extraction from captive rail customers would change the fact that those assets should not be replaced.)

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[3] Further discussion of the incentives for inefficient conduct that may be created by the Board's revenue adequacy methodology is provided in section 3, below.

The RAPB was fully aware of the impaired asset issue, and specifically cited treatment of impaired assets by GAAP as a rationale for favoring the GAAP treatment of assets in mergers and acquisitions over original cost accounting. However, this was not RAPB concluding that assets must be written up to ensure that investors earn an adequate return. In fact, it was just the opposite - RAPB concluded that in the then-large number of circumstances where the book values of assets exceeded their market value, it was important that the asset values be written down as provided in GAAP. In my view, this provided appropriate market signals to investors, in effect indicating that rail regulation would not be used to cover for poor investment choices. In that sense, the RAPB recommendation of GAAP in 1987 was analogous to the types of standards that I understand utilities generally must satisfy before an asset can be included in their rate base.

The principle that regulated customers should not be punished as a result of railroads' investments in unneeded assets is not only reasonable as a matter of fairness, but also places on investors in regulated assets the same types of risks that face investors in all types of unregulated, competitive endeavors. Indeed, forcing investors to face the music on impaired investments mirrors what happens in the Board's major rate case procedures, where a shipper is able to rely on a stand-alone railroad of optimally-efficient design that does not cross-subsidize unutilized assets. The fact that investors may lose some, much, or all of their capital if they don't properly anticipate the needs of the market is at the heart of the market forces that guide the efficient allocation of resources. RAPB apparently understood that compelling write-downs of impaired assets is a fact of life for investors, and that the mandate of the ICC (and subsequently this Board) to assist railroads in achieving adequate revenues did not include placing the burdens of investments in unneeded assets on the shoulders of captive rail customers.

In the 24 years that have passed since the RAPB report was issued, the railroads have had ample opportunity to shed impaired assets, and have done so through abandonments, shortline spin-offs, etc. As a result, the situation that provided the primary foundation for the RAPB endorsement of GAAP asset valuation standards no longer exists.

RAPB specifically recognized that regulatory purposes sometimes may justify deviations from GAAP.[4] Obviously, if the Board were to change its treatment of asset values in mergers and acquisitions, it might become appropriate for the Board to take other steps to ensure that any remaining impaired assets are not overvalued. However, the issue of impaired assets is far less significant than it was at the time of the RAPB report. This change of circumstances provides a need and an opportunity for the Board to revisit its treatment of assets in mergers and acquisitions, and, if warranted by regulatory purposes, to reach a different conclusion than did RAPB under the circumstances that prevailed in 1987.

The appropriateness of the original cost framework advocated by shippers is addressed in further detail in the following section.

3. Kolbe/Neels reply statement

Before commenting on the Kolbe/Neels reply statement, I would like to acknowledge, as a former co-worker, Dr. Kolbe's recognized expertise in financial economics. I take his observations seriously, and do not offer critical comments on his work lightly.

The concerns I have with the Kolbe/Neels statement can be traced largely to the limited experience of these witnesses in rail matters before the Board.[5] While rail witnesses with

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[4] As stated in the RAPB report (at page 44), "(t)he alternative methods proposed by the FASB may or may not be appropriate for regulatory purposes; that issue is left to the ICC."

[5] Based on the provided summaries of their work, Dr. Neels has appeared before the Board only once before, and Dr. Kolbe has never previously appeared here.

long "track" records certainly can make errors, and inexperienced ones can shed new light, the Kolbe/Neels statement is burdened by several problems related not to the conceptual or theoretical issues being raised, but rather to infirmities in the assumptions used in the attempted application of those concepts and theories to the rail industry. In places it also is inconsistent with relevant statutes and industry practices and with facts well-known to the Board. For these reasons, the Kolbe/Neels statement does not support the propositions for which it has been cited, as discussed in further detail below.

(a) <u>*Original Cost (OC) Regulation in the Presence of Competition*</u>

Kolbe/Neels concede outright that original cost ("OC") regulation is commonplace in the electric utility industry – where there is no doubt that such regulation has a long history of allowing the industry to attract and retain needed capital - but argue against its use for railroads based on their conclusion that "OC regulation cannot be used for a company facing material competition, since to do so imposes dual constraints that guarantee the company would fail to earn its cost of capital over the lives of its assets." If true, this conclusion would make the use of original costs sought by shippers inconsistent with the Board's mandate to assist carriers in attaining adequate revenues. However, this conclusion rests on assumptions that demonstrably are inapplicable to the situation at hand, and as a result it is incorrect.

In reaching this conclusion, Kolbe/Neels postulate an environment in which rail shippers who enjoy effective competition for their shipments can nevertheless avail themselves of regulated rates that are lower than competitive rates due to OC accounting.[6] It does not take much investigation to determine that the situation described cannot occur in the rail industry as Kolbe/Neels have assumed. Under Section 10707, before entertaining any rate challenge the

[6] This is discussed on pages 6-9 and summarized in Figure 2 on page 9 of Kolbe/Neels.

Board must find that the subject traffic faces "market dominance", defined in Section 10707(a) as "an absence of effective competition from other rail carriers or modes of transportation for the transportation to which a rate applies." The market dominance requirement, which has been in place for decades, precludes the type of "double-dipping" upon which the stated Kolbe/Neels conclusion depends.[7] Put another way, the only shipments for which regulated rates can be obtained are ones for which there is no effective competition.

On an empirical basis, the assumptions relied upon by Kolbe/Neels plainly do not reflect rail industry conditions. While Kolbe/Neels hypothesize that a competitive rate will produce adequate returns for an investor, the entire structure of rail rate regulation assumes that the tendency of competition to drive rates toward marginal costs will prevent railroads from achieving adequate returns in a fully competitive environment, and that a measured reliance on differential pricing via the exercise of rail market power is required. Under Section 10707(d), the Board is precluded from reducing any rate below the "jurisdictional threshold" of 180 percent of variable cost, so basically any regulated rail rate is virtually certain to be far above a corresponding competitive rate. Indeed, as discussed by several parties in this proceeding, it has become commonplace in major rate cases for stand-alone cost analyses to show that required rates are below 180% R/VC, and for parties to stipulate that the jurisdictional threshold will govern the prescribed rate. When this occurs, the prescribed rate is, by definition, <u>higher than the rate that would enable the carrier to cover all of its costs, including a market rate of return on all</u>

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[7] Recognized experts in regulatory and financial economics caution that when an assumption "does not correspond to legal reality, economists [may be] giving bad advice." See Kolbe, A. Lawrence, William B. Tye and Stewart C. Myers, <u>Regulatory Risk: Economic Principles and Applications to Natural Gas Pipelines and Other Industries</u>, Boston: Kluwer Academic Publishers (1993) at 40.

assets required to provide the given service. Far from failing to earn a market rate of return, as postulated by Kolbe/Neels, regulated rates in such instances demonstrably are supracompetitive.

Supracompetitive rates provide carriers with a return greater than the return required to motivate needed investment, and have no statutory, rational, economic, or equity foundation. Such rates raise many concerns, none of which are addressed by Kolbe/Neels. By yielding more than a market return on required assets, they distort resource allocation and are completely inconsistent with the economic theory underlying rail rate regulation. In essence, they represent removal of the "constrained" part of Constrained Market Pricing. Moreover, because stand-alone cost analyses typically incorporate the costs and revenues associated with other traffic that uses the same facilities as a movement that is the subject of a rate complaint, a rate case that concludes with a supracompetitive rate prescription on the subject traffic in fact is indicating that the railroad is earning a supracompetitive return on the entire portion of its network used by the subject traffic. If Kolbe/Neels had looked at actual current conditions, rather than contrived assumptions, their concerns almost certainly would have been the opposite of what they have stated.

The Board has an obligation to consider carefully any credible threat that its actions would create a systematic failure for a railroad or railroads to earn adequate returns. However, where, as here, such a threat is wielded without a reasonably rigorous foundation, it is no more than a bogeyman. The facts do not support the assumptions underlying the conclusion stated by Kolbe/Neels, and this conclusion therefore is entitled to no weight.

(b) *Double-Counting of Inflation*

In its opening submission, CURE cited established evidence that a double-count for inflation is produced when a nominal rate of return (as produced by the Board's cost-of-capital methodology) is applied to asset values that have been "written up" from their original cost to current values that include the effect of inflation. After conceding in their reply that under some circumstances "...there would be merit to this claim...", Kolbe/Neels (at pages 20-23) then advance a series of irrelevant considerations that improperly deflect concern from this well-settled analytical fact.

Kolbe/Neels discuss the double-count issue as if it only applies to revenue adequacy determinations. The basis for this limitation is unclear, as CURE explicitly referred to "any costing purpose".[8] As a result of this limitation, Kolbe/Neels do not even discuss the effect of the math error represented by the double-count on other regulatory functions performed by the Board, including the provision of accurate cost information. As a result of the silence of Kolbe/Neels, the CURE double-count point stands unchallenged with respect to regulatory purposes other than revenue adequacy.

Even if consideration of the double-count were limited to the revenue adequacy context, the arguments raised by Kolbe/Neels are incorrect. First, Kolbe/Neels allude to a supposed requirement that the railroads would have to "earn a real cost of capital return on the replacement cost of their assets, revalued every year...." It is unclear where this supposed requirement comes from. The Board imposes no such requirement, and in fact has explicitly rejected past railroad attempts to introduce such a requirement. One of the principal reasons for this rejection has been the widespread recognition that investor expectations of inflation cannot reliably be measured at any given point in time, so the "real cost of capital" cannot reliably be computed. While Kolbe/Neels might think the Board should overlook the double-count issue until their rejected and unmeasurable criterion is satisfied, this "see-no-evil" defense cannot be taken seriously.

[8] See CURE Opening Evidence and Arguments (October 28, 2011) at 9.

Even if Kolbe/Neels accepted other standards of revenue adequacy, their comments reflect outdated and wishful thinking. Specifically, their claim that "since the passage of the Staggers Act. no one suggests that any railroad has been able to [achieve revenue adequacy] on a consistent basis" is simply false, and displays a lack of familiarity with the results of the study performed by Christensen Associates for the Board, the record in Ex Parte No. 705 and other sources. Indeed, the CURE filing to which Kolbe/Neels purport to reply contains a lengthy discussion (encompassing the entirety of Section II at pages 10-15) of the revenue adequacy implications of the large write-up of BNSF's goodwill associated with the Berkshire Hathaway purchase. I interpret the conspicuous silence of Kolbe/Neels (and of the other railroad reply evidence and argument) regarding this point as a tacit acknowledgement of its validity.

Kolbe/Neels are also conspicuously silent regarding the testimony before this Board of their colleague, Prof. Stewart Myers. barely 4 years ago, regarding the CAPM methodology. Data presented by Prof. Myers indicated that the rail industry for a lengthy period had exhibited a "beta" value on the order of 0.5 (indicating a low risk relative to the market). but that measured betas began increasing around 2004.[9] AECC has described for the Board the way beta in CAPM is susceptible to upward bias due to movement in beta caused by the increased exercise of market power (i.e., the model ascribes to risk increased earnings that actually result from the increased exercise of market power, rather than any increase in actual risk).[10] During the time since 2004, when the railroads have touted their increased "pricing power" even through

[9] See Ex Parte No. 664. Methodology To Be Employed In Determining The Railroad Industry's Cost Of Capital, Myers Reply Verified Statement (October 29, 2007), Figure 1.

[10] See STB Ex Parte No. 664 (Sub-No. 1). Use of a Multi-Stage Discounted Cash Flow Model in Determining the Railroad Industry's Cost of Capital, "Comments of Arkansas Electric Cooperative Corporation" (April 14, 2008) at 2.

a protracted recession, the measured beta has increased from around 0.5 to its most recent value of 1.1619.[11]

Even if Kolbe/Neels could persuade themselves that the dramatic run-up of beta somehow reflects a genuine increase in risk rather than an artifact of increased market power, **CAPM currently finds the entire rail industry to be revenue adequate.** Specifically, the Board's most recent cost-of-capital determination found a value of 10.15 percent if the cost of common equity capital estimated by CAPM (and not MSDCF) is used,[12] while the actual return achieved by the entire Class I rail industry was 10.36 percent[13]. In this light, it can be seen that only the stated expectations of a few Wall Street analysts – upon which the Multi-Stage DCF component of the Board's cost-of-capital methodology is based, and which also are subject to upward bias if the analysts expect an increase in the exercise of market power – now cause the industry to be found revenue-inadequate. If Kolbe/Neels looked at the current data, particularly in the context of the past findings of Professor Myers, they would not be so quick to try to rely on the proposition that the industry as a whole is not revenue adequate.

The final attempt by Kolbe/Neels to excuse the double-count is to acknowledge its existence, but to claim, in effect, that it's not really that bad. However, to make this claim, they go back to their charts that supposedly show capital charges in regulated vs. competitive markets, and as I showed in section 1. above, these charts bear no resemblance to patterns of

[11] STB Docket No. EP 558 (Sub-No. 14), Railroad Cost Of Capital—2010, decision served October 3, 2011 at 6.

[12] In the computation performed in Table 15, substituting the CAPM value of 0.1184 for the averaged value of 0.1299 yields a weighted average of ((0.0461x0.2338) + (0.1184x0.7662)) = 0.1015.

[13] (Sum of Adjusted Net Railway Operating Income/Sum of Tax Adjusted Net Investment Base) = (10.150.931/97,974,599) = 0.1036. See Docket No. EP 552 (Sub-No. 15), Railroad Revenue Adequacy—2010 Determination, decision served November 3, 2011, Appendix B.

actual rate levels in the rail industry. The Board should not allow the Kolbe/Neels presentation of irrelevant, data-free stick figures to obfuscate the genuine and documented double-counting problem.[14]

If the Board wishes to address the double-count issue on a sound basis, there would appear to be two possibilities. One possible approach would be to deflate the written-up value of each asset to remove the effects of inflation since the time of the original investment. This would eliminate the double count issue, while still effectively writing down the value of impaired assets (as discussed above). The other possibility would be to use original cost accounting, perhaps refined by criteria to identify and give appropriate treatment to assets whose use (or lack thereof) no longer justifies the costs they impose.

(c) Rate Bases, Circularity and the Adverse Impacts of Increased Regulatory Costs

Multiple shipper parties have developed estimates of the impacts of the asset write-ups on individual traffic flows through their effects on URCS and the jurisdictional threshold. Instead of replying directly to those estimates, Kolbe/Neels developed a broader set of assertions claiming that because rail rates are not set based on a "rate base", there is no "circularity" (i.e., a write-up of asset values would not permit higher rates, driving up asset values, etc.), and a "modest change in regulatory costs" will not have significant adverse effects. Kolbe/Neels, in their broader view, have missed an entire category of impacts with which they should be familiar, and as a result are glossing over the true scope of the adverse impacts of the regulatory cost changes at issue here.

[14] Ironically, Kolbe/Neels seek to portray shippers as wanting "2 bites at the apple" (in the form of competitive and regulated rates), when in fact their argument permits an investor to earn a market return on the funds originally invested, and then be compensated a second time for inflation via asset write-ups.

As economic experts, Kolbe/Neels surely were aware that one of the fundamental objectives of the economic regulation discussed in their testimony – for railroads and utilities alike – is to ensure a market rate of return on investments and thereby ensure the availability of investment capital for needed facilities and infrastructure. They also surely were aware of the fact that there is no foundation for such regulation to allow returns above a market rate. In the utility context, with which they are most intimately familiar, applying the allowed return to the rate base is well established as a method to ensure that adequate returns are achieved, but excess returns are avoided.

In the railroad context, the issue is the same, but the process is less well-defined. While most individual rates are not determined through a regulatory process, the Board performs its annual revenue adequacy analysis to assess the sufficiency of overall rail earnings in the context of rail investment levels and the computed cost of capital. Although the Board has not defined exactly what it intends to do if it concludes that the earnings of a carrier or the industry as a whole have become more than adequate, it is reasonable for investors to expect that such a finding by the Board would lead to curtailment of differential pricing (if not by the Board, then by Congress).

In this context, all else equal, actions that increase either the computed cost of capital or rail investment enable a carrier to achieve higher net earnings without invoking curtailment of differential pricing. For example, the Board's most recent revenue adequacy determination illustrates how an increase in reported rail investment, such as would occur under the asset write-up at issue here, increases the ceiling of rail earnings that can be achieved without triggering a finding of revenue adequacy. All else equal, an increase of $8.1 billion in the value of a railroad's investment would increase permissible annual earnings by ($8.1 billion x 0.1101 =) $892 million/year.

The two most noteworthy elements of information provided by this example are as follows:

1. The effects of the asset write-up are not limited to special circumstances where R/VC ratios or Board rate reasonableness constraints would be altered by changes in URCS costs. Rather, those effects plainly include, in addition to such special circumstances, increased earnings from any sources on any traffic, most notably including any increased rates associated with the increased exercise of market power by carriers over ostensibly competitive traffic; and,
2. With prevailing railroad P/E ratios in the range of 14-18, the market valuation of the increase in "protected" earnings stemming from a write-up of rail assets is greater than the amount of the write-up itself. In the example presented above, the additional earnings of $892 million/year shielded by the $8.1 billion write-up, all else equal, boosts the value of the stock by on the order of $12.5-16.1 billion. Basically, as long as railroads face opportunities to increase the extraction of market power via increased rates, and assuming that investors believe that rates above the computed revenue adequate level will not be sustained, it would be economically rational for an investor to pay a premium that increased the valuation of rail assets for revenue adequacy purposes, because the value of the incremental earnings exceeds the premium that has to be paid to achieve them.[15]

[15] This finding is similar in many respects to an issue, originally known as the "Averch-Johnson effect", under which firms facing rate of return regulation may experience unintended incentives to artificially increase the quantity of capital to which an allowed rate of return is applied. [Footnote continued next page]

It does not need to be established that Berkshire Hathaway intended to rely on the asset write-up to provide cover for broad anti-competitive rate increases or an expanded earnings horizon for BNSF. In the current rail environment, these are intrinsic aspects of the asset write-ups called for under GAAP that should persuade the Board to reconsider this practice. Contrary to the assurances offered by Kolbe/Neels, the effects of the changes in regulatory costs associated with asset write-ups are highly significant, and warrant careful attention from the Board.

[Footnote continued from previous page]
Related to this issue, which has been documented and examined in economic literature at least since the 1960's (first by Averch and Johnson, and subsequently by Wellisz and others), public utility commissions normally give very close scrutiny to the legitimacy of individual assets included in a utility's rate base.

EXHIBIT A

MICHAEL A. NELSON

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Dalton, MA 01226

EDUCATION

M.S. Civil Engineering, Massachusetts Institute of Technology

M.S. Management, Alfred P. Sloan School of Management, Massachusetts Institute of Technology

B.S. Management, Massachusetts Institute of Technology

Concentrations in transportation systems analysis, economics, operations research and public sector management.

EXPERIENCE

Mr. Nelson is an independent transportation systems analyst. He provides management and economic consulting and litigation support. His work typically involves developing and applying methodologies based on operations research, microeconomics, statistics and/or econometrics to solve specialized analytical problems, as illustrated by the following examples of his experience:

A. Railroad

On behalf of Arkansas Electric Cooperative Corporation (AECC), Mr. Nelson provided economic and other analyses and facts in support of the effort by the Surface Transportation Board (STB) in Ex Parte 705 to explore the current state of competition in the railroad industry and possible policy alternatives.

Also on behalf of AECC, Mr. Nelson submitted extensive testimony to the Board in Docket No. 42104/Finance Docket No. 32187. This testimony analyzed and commented on many aspects of alternative rail routes for transporting coal from the Powder River Basin (PRB) to the Independence Steam Electric Station (ISES) at Newark, AR.

On behalf of Consumers United for Rail Equity (CURE), Mr. Nelson analyzed the public interest impacts associated with the Board's "Bottleneck Rule", which limits opportunities for interline movements to serve captive rail customers. This analysis showed the substantial adverse effects of the rule on rail operating efficiency, system reliability and infrastructure investment. It subsequently was cited as an authoritative source on Bottleneck Rule impacts in a joint study conducted by the United States Departments of Agriculture and Transportation.

Also on behalf of AECC, Mr. Nelson submitted testimony to the STB in Finance Docket No. 35305. This testimony analyzed extensive evidence regarding the deposition and effects of fugitive coal dust from movement of PRB unit coal trains.

Also on behalf of AECC, Mr. Nelson submitted testimony to the STB in Finance Docket No. 35081. This testimony addressed the effects of the proposed control by Canadian Pacific Railway (CP) of Dakota, Minnesota & Eastern Railroad (DME), with a particular focus on the planned DME construction project and other potential initiatives to create a new rail outlet for coal from the Powder River Basin (PRB).

On behalf of a group of landowners, Mr. Nelson developed information and provided oral testimony regarding DME's PRB project in land condemnation proceedings initiated by DME in Wyoming.

Also on behalf of AECC, Mr. Nelson submitted testimony to the STB in Ex Parte No. 657 (Sub-No. 1) regarding specific proposals to improve the "stand alone" cost (SAC) methodology used to assess the reasonableness of contested rail rates.

Also for AECC, Mr. Nelson analyzed issues related to rail transportation service in the supply of coal to two potential sites for a new electric generation facility in Arkansas. This work included analysis of likely rate levels in light of movement- and site-specific competitive and operational considerations.

Also on behalf of AECC, Mr. Nelson submitted testimony to the STB in Ex Parte No. 658. This testimony provided comments on rail regulation under the Staggers Act, and identified potential changes in rail regulation that would be consistent with the public interest and expected future industry conditions.

On behalf of a group of coal users, including Ameren, Dominion and AECC, Mr. Nelson submitted a verified statement to the STB in Finance Docket No. 34421. This testimony addressed technical, operational and public interest considerations associated with a proposal to permit the construction of a competing rail line within the unused portion of an existing rail carrier's right-of-way.

Mr. Nelson has developed information to assist coal users in responding to the coal supply problems created by the May 2005 derailments and subsequent rail throughput constraints on the PRB Joint Line. He has identified potential actions by coal users to improve PRB coal throughput, transportation issues for substitute coals and fuels, and steps to facilitate rail cooperation.

In response to a public request by the STB for suggested improvements in the SAC methodology, Mr. Nelson provided written and oral testimony in STB Ex Parte No. 657. This testimony identified potential methodological refinements in 10 specific areas, and was cited by Commissioner Mulvey for its high responsiveness to the Board's request.

Mr. Nelson is the founder of the Coalition to Foster Improved Rail Economy ("CoalFIRE"). This initiative is open on a subscription basis to current and prospective PRB coal users. It identifies and promotes awareness of specific potential group actions to improve the competitiveness of PRB rail transportation options within the current legal and regulatory framework. Over 20 specific potential group actions have been identified to date, including steps to add/restore competitors, increase the effectiveness of existing competitors, increase customer leverage and develop external pressure for reasonable competitive conduct by the current PRB rail duopoly.

For a powerplant developer, Mr. Nelson analyzed issues related to rail transportation service in the supply of coal to two potential sites for a new generation facility in Oklahoma. This work included analysis of likely rate levels in light of movement- and site-specific competitive and operational considerations.

Mr. Nelson prepared a 10-year forecast of expected changes in rail productivity and competitive rail rate levels for the movement of coal from the PRB. This forecast has been provided on a subscription basis to interested parties, and is believed to be the only such forecast that is based on analysis of specific anticipated productivity enhancements (as opposed to extrapolation of past trends). Subscribers have used this information to analyze the merits of converting to PRB coal, to support contract negotiations and for other strategic and planning purposes.

For a powerplant developer, Mr. Nelson analyzed issues related to the anticipated reliance on competitive rail transportation service in the supply of coal to a planned new generation facility in Missouri. This work included analysis of likely rate levels in light of unique limitations faced by one of the competing rail lines.

On behalf of a group of over two dozen major electric utilities, Mr. Nelson provided strategic guidance and analytical support, and participated in negotiations with a Class I railroad regarding prospective multi-billion dollar investments by the utilities to improve their coal transportation options.

For a midwestern utility, Mr. Nelson assisted in the development of improved transportation options for a large coal-fired generating station. As part of this work, he reviewed an analysis performed by a major engineering contractor, and identified a series of cost-effective options that had been overlooked. He then provided strategic guidance and analytical support in the development process.

For a mining company, Mr. Nelson analyzed the transportation options that would be available for a prospective new facility in western Colorado. This included detailed consideration of the "new facilities" condition imposed by the STB in its approval of the merger of the Union Pacific (UP) and Southern Pacific (SP) railroads.

For AECC, Mr. Nelson submitted statements to the STB in Finance Docket Nos. 34177 and 34178. These statements addressed the actual and potential competitive roles of I&M Rail Link (IMRL) in domestic coal transportation, and the prospective impacts associated with control of IMRL by the Dakota, Minnesota and Eastern Railroad (DME).

On behalf of the Town of Easton (MA), representing a coalition of towns, Mr. Nelson identified and corrected a series of substantial errors and inconsistencies in the Final Environmental Impact Report for the proposal by the Massachusetts Bay Transportation Authority (MBTA) to provide new commuter rail service to New Bedford and Fall River. This extended Mr. Nelson's previous analyses, which had identified and documented a series of significant errors in the development of the

MBIA's conclusions regarding the alleged infeasibility of a key alternative route. Mr. Nelson also identified and made preliminary assessments of other alignment and operational possibilities that had been inappropriately omitted from consideration.

As a subcontractor to The Brattle Group, an economic consulting firm, Mr. Nelson provided guidance to the Mexican railroad TFM regarding the identification of different types of competitive and efficiency issues raised by the proposed merger of the other two principal Mexican railroads (Ferromex and Ferrosur). The merger was denied by both the national transportation and antitrust authorities.

For the Cowboy Railroad Development Company (CRDC), a group of major electric utilities, Mr. Nelson directed the identification and evaluation of alternative routes and strategies for creating a new railroad access across Nebraska to coal mines in the PRB.

As part of the work for CRDC, Mr. Nelson analyzed the degree to which the UP/SP merger foreclosed competitive routes that could be offered by a new PRB rail carrier. The results of this analysis were submitted to the STB in Finance Docket 32760 (Sub-No.21), which provided oversight of the UP/SP merger and its impacts.

For a major electric utility, Mr. Nelson performed a detailed analysis of rail transportation options for PRB coal movements to the Sunflower Electric generating station at Holcomb, KS. The results of this analysis were used by the utility in assessing the merits of investing in a planned expansion of that facility.

For an assortment of major electric utilities and power producers, Mr. Nelson has performed detailed analyses of rail transportation options, including build-outs, for a total of over 30 large coal-fired generating stations. The results of these analyses have served as the basis for management decisions that are projected to save many millions of dollars in fuel costs.

On behalf of AECC, Mr. Nelson submitted a statement to the STB in Finance Docket 32760 (Sub-No.21). This statement addressed competitive issues resulting from the UP/SP railroad merger, with a particular focus on the effect of trackage rights compensation levels.

On behalf of the Committee to Improve American Coal Transportation (IMPACT), Mr. Nelson submitted a statement to the STB in Ex Parte 582 (Sub-No. 1). This statement addressed a wide range of issues related to rail merger policy.

For a major Class I railroad, Mr. Nelson assisted senior management staff in the design and evaluation of a potential construction project.

For the Mid-States Coalition for Progress (a group of landowners), Mr. Nelson analyzed the proposal by DME to construct an extension of its line into the PRB. Mr. Nelson developed estimates of DME's volumes and unit revenue levels on the basis of a plant-by-plant analysis, taking into account likely future market conditions and the competitive capabilities of the UP and Burlington Northern Santa Fe (BNSF). Mr. Nelson's analysis was filed at the STB (Finance Docket No. 33407).

For the National Railroad Passenger Corporation (AMTRAK), Mr. Nelson investigated issues related to the definition of "express" traffic that AMTRAK is permitted to carry (STB Finance Docket No. 33469). Mr. Nelson analyzed relevant data from the STB Rail Waybill Sample and the Census of Transportation, and investigated the factors affecting use of Amtrak by the U.S. Postal Service. The definition of "express" eventually adopted by the STB was consistent with Mr. Nelson's findings.

For the Moffat Tunnel Commission (Colorado), Mr. Nelson analyzed the factors affecting future railroad use of that tunnel, which traverses the Continental Divide and serves the principal Colorado coal fields on the UP line that formerly was the Denver and Rio Grande Western Railroad (DRGW) main line west of Denver. The tunnel had historically been owned by the Commission (and leased to the railroad), but under sunset legislation was being offered for public sale. Mr. Nelson's analysis included study of the utilization of Colorado/Utah vs. PRB coals in the context of the central corridor conditions imposed by the STB in the UP/SP merger.

For CP, Mr. Nelson performed detailed studies of competitive and traffic issues associated with the acquisition and break-up of Conrail by Norfolk Southern and CSX (Finance Docket No. 33388). These studies included analyses of competitive issues in the area served by the former Delaware and Hudson (a CP subsidiary) and in the midwest, competitive issues involving coal traffic throughout the Conrail service area, and traffic impacts associated with potential remedial conditions. CP relied upon the results of Mr. Nelson's studies in reaching it's settlements with Applicants in that case.

For SP, Mr. Nelson provided expert testimony before the Interstate Commerce Commission (ICC) in Finance Docket No. 32133 (the proposed control of C&NW by UP). This testimony was based primarily on Mr. Nelson's analyses of data from the Rail Waybill Sample, which identified substantial numbers of specific flows for which the proposed transaction created different types of potential competitive problems (including losses of point-to-point competition, source competition, competition in grain originations, and shipper leverage). In addition, Mr. Nelson's testimony utilized Rail Waybill Sample data to demonstrate the occurrence of merger-related foreclosure from previous UP acquisitions, and provided statistical support for SP's traffic study. Mr. Nelson also conducted a detailed investigation of the impact of the merger on source competition for western coal.

For Rio Grande Industries (RGI), Mr. Nelson provided expert testimony before the ICC in Finance Docket No.'s 31505 (the proposed acquisition by RGI of Soo's Kansas City - Chicago line) and 31522 (the proposed acquisition by RGI of the Chicago, Missouri and Western line between St. Louis and Chicago) based on his analysis of Rail Waybill Sample data. This testimony involved analysis of potential cumulative anti-competitive effects from the proposed transactions, development of time-series estimates of rail traffic volumes and carrier shares in different flows, and assessment of the statistical reliability of the portions of the testimony of other RGI witnesses that were based on Rail Waybill Sample data.

Also for RGI, Mr. Nelson provided expert testimony before the ICC in Finance Docket No. 32000, the consolidation of SP and DRGW. This testimony involved analysis of Rail Waybill Sample data to determine rail traffic volumes in different flows, the statistical reliability of studies conducted by other RGT witnesses, and potential competitive problem flows associated with a consolidation of SP and KCS.

For DRGW, Mr. Nelson provided expert testimony before the ICC in Finance Docket No. 30800 (the acquisition of MKT by UP) based on his analysis of Rail Waybill Sample data. This testimony involved examination of intramodal competition in the central corridor, development of traffic flow databases utilized by other witnesses, assessment of the statistical reliability of other witnesses' studies, and analysis of issues related to use of market share data from waybill samples to evaluate the competitive impact of the proposed merger.

Also for DRGW, Mr. Nelson provided extensive expert testimony before the ICC regarding a number of issues raised by the proposed merger of SP with ATSF (Finance Docket No. 30400):

* Mr. Nelson provided a detailed comparison of the economic and operating characteristics of the intercity trucking and railroad industries, with a particular focus on long-haul markets. Mr. Nelson's analysis of the trucking industry utilized the National Motor Transport Data Base (NMTDB). For this study, Mr. Nelson developed and implemented analytical techniques that compensate for the non-random sampling procedures employed in the gathering of the NMTDB, making it possible to use this source to reliably conduct studies at the industry and corridor level. The Commission adopted the results of Mr. Nelson's study verbatim in its analysis of the anti-competitive consequences of the proposed merger.

* Using the NMTDB and the Rail Waybill Sample, Mr. Nelson analyzed the extent to which rail pricing and services on selected traffic are determined by competing intercity trucking alternatives available to shippers. This analysis was conducted at a highly detailed level, and included explicit accounting for the handling characteristics of each rail commodity and the operating economics of the corresponding truck equipment needed.

* Mr. Nelson analyzed the tests applied by various economists in the proceedings, including those of the U.S. Departments of Justice and Transportation, to identify rail traffic that would most likely be subject to anti-competitive effects in the wake of the proposed merger. Mr. Nelson identified circumstances under which these tests systematically yield invalid results, and provided guidelines for their proper application.

* Mr. Nelson identified improvements needed in the merger applicants' initial methodology for estimating the rail traffic diversions that likely would result from the proposed merger.

* In addition to this expert testimony, Mr. Nelson served as principal investigator for several studies underlying testimony offered by other witnesses, addressing issues related to intramodal (rail) competition, product and source competition, shipper benefits and leverage and trackage rights compensation. Mr. Nelson also conducted a number of special studies on request for other witnesses and counsel.

For a private client, Mr. Nelson participated in a study of the purchase and utilization of jumbo covered hopper cars by shippers and railroads. This study involved extensive analysis of the Rail Waybill Sample and other data sources, and included a detailed examination of historical car shortages in light of economic and traffic conditions, and other related factors. The results of Mr. Nelson's work were incorporated in testimony before the ICC.

As a subcontractor to consulting firms, Mr. Nelson has participated in a number of other rail-related studies. These include (1) analysis of Rail Waybill Sample data to address issues stemming from traffic protective conditions at the Jacksonville (FL) gateway between FEC and CSX, and (2) analysis of CN's Port Huron-Sarnia tunnel project and the alternative of a tunnel at Detroit-Windsor.

B. Postal Service

For Magazine Publishers of America (MPA) acting on behalf of a coalition of periodicals mailers, Mr. Nelson analyzed several issues related to the purchased transportation costs incurred by the Postal Service. This included identification of feasible cost reductions and efficiency improvements, as well as development of needed refinements in the methods used by the Postal Service to analyze transportation costs. The results of this analysis were presented to the Postal Rate Commission (PRC) in the R2000-1 omnibus rate case. A portion of the identified costing refinements has been adopted by the Postal Service.

Mr. Nelson identified and developed opportunities for a major publisher to create more efficient and desirable price/service options by avoiding selected costs in its mailings of periodicals. This work included consideration of transportation, delivery and unfunded retirement liability costs.

For Foster Associates (under contract to the Postal Service), Mr. Nelson worked in the following areas:

* Delivery costing - Mr. Nelson developed a series of refinements in delivery cost analysis procedures. These refinements included analysis of driving time on motorized letter routes, collection costing and extensive revision of costing for special purpose routes and special delivery messengers. In support of the new methodologies, Mr. Nelson developed data collection plans and assisted in the development of survey instruments and innovative procedures to gather new field data from carrier and messenger operations. He conducted extensive analysis of the new data, including development of data cleaning and weighting procedures, analysis program logic, and specifications for new econometric models. He also identified an overlap in costing systems that produced a "double-count" of delivery activity performed by personnel other than special delivery messengers but charged to LDC 24 (Cost Segment 9). He developed spreadsheet modifications needed to incorporate the costing refinements and new data, and eliminate the "double-count" problem. The results of Mr. Nelson's delivery costing work were presented before the PRC in the R97-1 omnibus rate case. The PRC adopted 9 out of 10 of Mr. Nelson's recommended methodological changes, 2 with commendations.

* New products - Mr. Nelson identified the cost basis for a number of potential new product offerings involving Express Mail and Priority Mail, and developed the analytical framework and information needed to support their implementation. This included design and analysis of a new field study of relevant Express Mail piece characteristics, which was also presented by Mr. Nelson in the R97-1 rate case.

* Litigation support - In Docket No. R94-1, Mr. Nelson reviewed intervenor testimony regarding city delivery carrier and transportation issues, and developed discovery and cross-examination topics for Postal Service counsel.

* IOCS - Mr. Nelson developed refinements in IOCS data gathering procedures to improve the validity and precision of available information regarding Express Mail activities. Mr. Nelson then interpreted the initial results from the new data and provided suggestions for improvements in Express Mail costing procedures.

* Postal AMR - Mr. Nelson developed a plan for analyzing the street time costs associated with a proposal to have postal vehicles perform automated meter reading for utility companies.

* Eagle Network - Mr. Nelson developed a potential methodology for attributing the costs of dedicated air transportation services procured by the Postal Service.

For United Parcel Service (UPS), Mr. Nelson provided extensive expert testimony before the PRC in Docket No. R90-1. This testimony presented Mr. Nelson's studies of cost causality and/or elasticity within the city delivery carrier, special delivery messenger, vehicle service driver, purchased highway transportation and expedited air network operations of the Postal Service. These studies, which involved application of operations research techniques and development of econometric models and other statistical analyses based on postal data, were referenced and relied upon extensively by the PRC in its Opinion and Recommended Decision. To a considerable degree, these studies represented extensions and refinements of Mr. Nelson's previous studies, which were presented before the PRC in Mr. Nelson's testimony in Docket No. R87-1, and in Docket No. RM86-2B, a rulemaking proceeding established in part to explore issues raised in testimony before the PRC in Docket No. R84-1 for which Mr. Nelson served as principal investigator.

C. Other

Mr. Nelson participated in an airport master planning study for Sydney, Australia. For this study, he developed a comprehensive set of site selection criteria and evaluation measures.

Until February 1984, Mr. Nelson was a Senior Research Associate at Charles River Associates (CRA), an economic research and consulting firm, where his work experience included the following:

Freight Transportation

Mr. Nelson served as Manager of Consulting Services for the National Motor Transport Data Base (described above), which at the time was sponsored by CRA. In this position, he was responsible for handling client requests for information from the database, including problem definition, sampling issues, conduct of analyses and reporting of results. He conducted specific analyses for a number of public and private clients.

Mr. Nelson served as principal investigator for a study of motor carrier safety and traffic characteristics. This study involved extensive analysis of a number of databases, including the FHWA "Loadometer" Study, the 1977 Census of Transportation, the ICC "Empty/Loaded" Survey, and the NMTDB. The results of his work were incorporated in testimony before the U.S. District Court on behalf of a private client engaged in litigation with a state over the use of twin trailers.

Mr. Nelson participated in several other projects providing support for motor carriers involved in litigation cases. For these clients he performed detailed financial analyses of motor carrier operations and traffic in different settings, and assisted in the preparation of testimony and briefs. Mr. Nelson also served as an internal consultant on a number of CRA's other motor carrier, railroad, and freight transportation studies.

For the U.S. Department of Transportation (DOT), Mr. Nelson was principal investigator of a study to develop a conceptual framework and data collection strategy for analyzing the impacts of the motor carrier regulatory reforms implemented under the Motor Carrier Act of 1980. For this project, Mr. Nelson was responsible for identifying and selecting specific research issues, data requirements, data sources and analytical techniques.

In a study for the Office of the Secretary of Transportation, Mr. Nelson made extensive use of probabilistic modeling techniques to develop quantitative estimates of potential fuel conservation resulting from selected aspects of proposed motor carrier regulatory reforms.

For DOT, Mr. Nelson was principal investigator for a study of the merits of alternative approaches that could be utilized by the ICC to implement the inflation-based index for allowable rate adjustments by railroads mandated by the by the Staggers Rail Act of 1980. For this study he analyzed the ICC's proposed approach and developed specific conclusions and recommendation in a number of issue areas, including selection of the basic index, productivity adjustments, treatment of profit and non-recurring expenses, frequency of index adjustment, rate averaging, regional differences, collective ratemaking and fuel surcharges. The results of this study were used by DOT in formulating its response to the ICC's proposed approach.

For a private client, Mr. Nelson analyzed the logistical considerations involved in siting a plant to process imported high-value mineral ores. This study, which was part of a larger study to assess the overall economic feasibility of plant construction and operation, involved comparisons of costs and other attributes of a variety of modes and modal combinations, including rail, inland waterway, motor carrier and TOFC.

In a study of urban freight consolidation alternatives conducted for the U.S. Department of Energy (DOE), Mr. Nelson utilized principles of network analysis, simulation and queuing theory to evaluate and critique the merits of previous studies, and recommend research approaches for analysis of route and terminal consolidation strategies.

Also for DOE, Mr. Nelson was a major contributor to a study of potential fuel-use changes that could occur in response to dramatic fuel price increases. Mr. Nelson's work focused on the freight and intercity passenger transportation sectors and included analyses of opportunities for improvements in fuel efficiency by each mode under different fuel price increase scenarios, as well as modal shifts and net traffic reductions caused by resulting cost (and rate) increases.

Passenger Transportation

Mr. Nelson served as principal investigator for a series of Service and Management Demonstration Evaluations conducted for DOT. For three parallel assessments of the feasibility of user-side subsidies, and one demonstration of taxicab regulatory reforms and paratransit service innovations, he developed instruments for and implemented several surveys, conducted data analysis and prepared Final Evaluation Reports. For an assessment of alternative transit transfer policies, he developed research issues and data requirements, selected and supervised interviews of over 40 transit properties, and wrote or was responsible for all major deliverables. He assisted DOT in the development of research issues to be addressed in demonstrations of innovative checkpoint paratransit services and in the review of a proposed paratransit policy.

Also for DOT, Mr. Nelson was principal investigator of a study of methods to improve transit productivity and cost-effectiveness. This study involved the identification and documentation of 146 distinct productivity-enhancement measures that have been implemented at U.S. transit properties, assessment of the transferability of each measure to different settings, and development of impact magnitude estimates. Prior to this project, Mr. Nelson developed over two dozen ideas for possible innovations to improve transit productivity and cost effectiveness.

Mr. Nelson participated in a financing study of the New York Metropolitan Transportation Authority's proposed multi-billion dollar capital improvement program. Mr. Nelson's responsibilities in this project involved econometric analysis of operating costs, with a particular emphasis on identifying the variability of different cost components with alternative future levels of rapid rail, bus, and commuter rail activity. The results of his work were incorporated in the MTA's Official Statement for the successful initial offering of $250 million in transit revenue bonds.

For DOT, Mr. Nelson participated in a study to develop technical guidelines for use by local planners to satisfy alternatives analysis requirements. For this study he developed a matrix-based method for determining data requirements in different scenarios, and played a major role in the development of a method for generating locally responsive alternatives to high-capital transit investments using multicriteria decision techniques.

For the Massachusetts Port Authority, Mr. Nelson participated in a study to forecast future levels of passenger and air cargo activity at Logan International Airport. For this study, Mr. Nelson supervised data collection efforts, developed methods for synthesizing data from diverse sources (FAA, CAB, Port Authority records, etc.) to yield relevant market segment size estimates, and analyzed seasonality and short-term peaking phenomena.

Mr. Nelson also participated in a quantitative assessment of the market penetration potential and associated impacts of electric vehicles for the Electric Power Research Institute (EPRI).

Thesis

In his graduate thesis at M.I.T., which fulfilled the thesis requirements for two Master's degrees, Mr. Nelson developed a comprehensive review of the theoretical and practical shortcomings encountered in the use of linear programming in a real time multiple vehicle routing and scheduling system (dial-a-ride). Based on network analysis techniques, he then developed a set of heuristic algorithms that avoided the shortcomings inherent in the linear programming (LP) approach. The performance of these algorithms was simulated by computer and found to meet or exceed the LP's performance in a variety of scenarios drawn from actual operating data.

TESTIMONY

Surface Transportation Board, Ex Parte 705

- Verified Statement, 4-12-11
- Reply Verified Statement, 5-27-11

Surface Transportation Board, Docket No. 42104/Finance Docket No. 32187

- Rebuttal Verified Statement, 9-2-08
- Verified Statement, 4-7-10
- Rebuttal Verified Statement, 7-9-10

Surface Transportation Board, Finance Docket No. 35305

- Verified Statement, 3-16-10
- Reply Verified Statement, 4-30-10
- Rebuttal Verified Statement, 6-4-10

U.S. District Court - District of Wyoming, Civil No. 07 CV-142-D

- Oral Testimony, 3-19-08
- Oral Testimony, 5-29-08

Surface Transportation Board, Finance Docket No. 35081

- Verified Statement, 3-4-08
- Reply Verified Statement, 5-19-08

Surface Transportation Board, Ex Parte No. 657 (Sub-No. 1)

- Written Testimony, 5-1-06
- Reply Testimony, 5-31-06

Surface Transportation Board, Ex Parte No. 658

- Written Testimony, 10-12-05
- Oral Testimony, 10-19-05

Surface Transportation Board, Finance Docket No. 34421

- Verified Statement, 9-29-05

Surface Transportation Board, Ex Parte No. 657

- Written Testimony, 4-20-05

- Oral Testimony, 4-26-05

Surface Transportation Board, Finance Docket No. 34178

- Verified Statement, 11-14-02

Surface Transportation Board, Finance Docket No. 34177

Verified Statement, 7-18-02

Surface Transportation Board, Finance Docket No. 32760 (Sub-No. 21)

- Verified Statement, 8-17-01

- Verified Statement, 8-18-00

Postal Rate Commission, Docket No. R2000-1

- Direct Testimony, MPA-T-3, 5-22-00

Surface Transportation Board, Ex Parte No. 582 (Sub-No. 1)

- Statement, 5-16-00

Surface Transportation Board, Finance Docket No. 33407

- Verified Statement, 8-31-98

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VERIFICATION

I, Michael A. Nelson, declare under penalty of perjury that the foregoing is true and correct. Further, I certify that I am qualified and authorized to file this verified statement.

Michael A. Nelson

Michael A. Nelson

Executed on December 19, 2011